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L1: Entry 1 of 1 File: USPT Oct 23, 2001

US-PAT-NO: 6307128
DOCUMENT-IDENTIFIER: US 6307128 B1

TITLE: Fatty acid elongases

DATE-ISSUED: October 23, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jaworski; Jan G.	Oxford	OH		
Post-Beittenmiller; Martha Ann	Ardmore	OK		
Todd; James	Oxford	OH		

US-CL-CURRENT: 800/298; 435/419, 536/23.6, 800/281

CLAIMS:

What is claimed is:

1. An isolated polynucleotide encoding a polypeptide having an amino acid sequence selected from the group consisting of: SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:12, and SEQ ID NO:14.

2. The polynucleotide of claim 1, wherein said amino acid sequence is SEQ ID NO:2.

3. The polynucleotide of claim 1, wherein said amino acid sequence is SEQ ID NO:4.

4. The polynucleotide of claim 1, wherein said amino acid sequence is SEQ ID NO:6.

5. The polynucleotide of claim 1, wherein said amino acid sequence is SEQ ID NO:12.

6. The polynucleotide of claim 1, wherein said amino acid sequence is SEQ ID NO:14.

7. An isolated polynucleotide, wherein said polynucleotide is selected from the group consisting of:

a) SEQ ID NO:1;

b) SEQ ID NO:3;

c) SEQ ID NO:5;

d) SEQ ID NO:7;

e) SEQ ID NO:9;

f) SEQ ID NO:11;

g) SEQ ID NO:13;

h) an RNA analog of SEQ ID NO:1;

i) an RNA analog of SEQ ID NO:3;

j) an RNA analog of SEQ ID NO:5;

k) an RNA analog of SEQ ID NO:7;

l) an RNA analog of SEQ ID NO:9;

m) an RNA analog of SEQ ID NO:11;

n) an RNA analog of SEQ ID NO:13;

o) a polynucleotide having a nucleic acid sequence complementary to a), b), c), d), e), f), g), h), i), j), k), l), m), or n); and

p) a nucleic acid fragment of a), b), c), f), g), h), i), j), m), n), or o) that is at least 100 nucleotides in length.

8. A transgenic plant containing a nucleic acid construct comprising a polynucleotide selected from the group consisting of:

a) SEQ ID NO:1;

b) SEQ ID NO:3;

c) SEQ ID NO:5;

d) SEQ ID NO:7;

e) SEQ ID NO:9;

f) SEQ ID NO:11;

g) SEQ ID NO:13;

h) an RNA analog of SEQ ID NO:1;

i) an RNA analog of SEQ ID NO:3;

j) an RNA analog of SEQ ID NO:5;

k) an RNA analog of SEQ ID NO:7;

l) an RNA analog of SEQ ID NO:9;

m) an RNA analog of SEQ ID NO:11;

n) an RNA analog of SEQ ID NO:13;

o) a polynucleotide having a nucleic acid sequence complementary to a), b), c), d), e), f), g), h), i), j), k), l), m), or n); and

p) a nucleic acid fragment of a), b), c), f), g), h), i), j), m), n), or o) that is at least 100 nucleotides in length.

9. The plant of claim 8, wherein said construct further comprises a regulatory element operably linked to said polynucleotide.

10. The plant of claim 9, wherein said regulatory element is a tissue-specific promoter.

11. The plant of claim 10, wherein said regulatory element is an epidermal cell-specific promoter.

12. The plant of claim 10, wherein said regulatory element is a seed-specific promoter that is operably linked in sense orientation to said polynucleotide.

13. The plant of claim 12, wherein said plant has altered levels of very long chain fatty acids in seeds compared to the levels in a plant lacking said nucleic acid construct.

14. A transgenic plant containing a nucleic acid construct comprising a polynucleotide encoding a polypeptide having an amino acid sequence selected from the group consisting of: SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, and SEQ ID NO:14.

15. The plant of claim 14, wherein said construct further comprises a regulatory element operably linked to said polynucleotide.

16. The plant of claim 15, wherein said regulatory element is a tissue-specific promoter.

17. The plant of claim 16, wherein said regulatory element is an epidermal cell-specific promoter.

18. The plant of claim 16, wherein said regulatory element is a seed-specific promoter that is operably linked in sense orientation to said polynucleotide.

19. The plant of claim 18, wherein said plant has altered levels of very long chain fatty acids in seeds compared to the levels in a plant lacking said nucleic acid construct.

20. A method of altering the levels of very long chain fatty acids in a plant, comprising the steps of:

a) creating a nucleic acid construct, said construct comprising a polynucleotide selected from the group consisting of:

a) SEQ ID NO:1;

b) SEQ ID NO:3;

c) SEQ ID NO:5;

d) SEQ ID NO:7;

e) SEQ ID NO:9;

f) SEQ ID NO:11;

g) SEQ ID NO:13;

h) an RNA analog of SEQ ID NO:1;

i) an RNA analog of SEQ ID NO:3;

j) an RNA analog of SEQ ID NO:5;

k) an RNA analog of SEQ ID NO:7;

l) an RNA analog of SEQ ID NO:9;

m) an RNA analog of SEQ ID NO:11;

n) an RNA analog of SEQ ID NO:13;

o) a polynucleotide having a nucleic acid sequence complementary to a), b), c), d), e), f), g), h), i), j), k), l), m), or n); and

p) a nucleic acid fragment of a), b), c), f), g), h), i), j), m), n), or o) that is at least 100 nucleotides in length; and

b) introducing said construct into said plant, wherein said polynucleotide is effective for altering the levels of very long chain fatty acids in said plant.

21. An isolated polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:8.

22. An isolated polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:10.

23. The plant of claim 10, wherein said nucleic acid construct comprises a nucleic acid fragment of SEQ ID NO:1 that is at least 100 nucleotides in length.

24. The plant of claim 23, wherein said regulatory element is an epidermal cell-specific promoter.

25. The plant of claim 23, wherein said nucleic acid fragment is operably linked in antisense orientation to said regulatory element.

26. The plant of claim 10, wherein said nucleic acid construct comprises a nucleic acid fragment of SEQ ID NO:3 that is at least 100 nucleotides in length.

27. The plant of claim 26, wherein said regulatory element is an epidermal cell-specific promoter.

28. The plant of claim 26, wherein said nucleic acid fragment is operably linked in antisense orientation to said regulatory element.

29. The plant of claim 10, wherein said nucleic acid construct comprises a nucleic acid fragment of SEQ ID NO:5 that is at least 100 nucleotides in length.

30. The plant of claim 29, wherein said regulatory element is an epidermal cell-specific promoter.

31. The plant of claim 29, wherein said nucleic acid fragment is operably linked in antisense orientation to said regulatory element.

32. The plant of claim 10, wherein said nucleic acid construct comprises a nucleic acid fragment of SEQ ID NO:7 that is at least 100 nucleotides in length.

33. The plant of claim 32, wherein said regulatory element is an epidermal cell-specific promoter.

34. The plant of claim 32, wherein said nucleic acid fragment is operably linked in antisense orientation to said regulatory element.

35. The plant of claim 10, wherein said nucleic acid construct comprises a nucleic acid fragment of SEQ ID NO:9 that is at least 100 nucleotides in length.

36. The plant of claim 35, wherein said regulatory element is an epidermal cell-specific promoter.

37. The plant of claim 35, wherein said nucleic acid fragment is operably linked in antisense orientation to said regulatory element.

38. The plant of claim 10, wherein said nucleic acid construct comprises a nucleic acid fragment of SEQ ID NO:11 that is at least 100 nucleotides in length.

39. The plant of claim 38, wherein said regulatory element is an epidermal cell-specific promoter.

40. The plant of claim 38, wherein said nucleic acid fragment is operably linked in antisense orientation to said regulatory element.

41. The plant of claim 10, wherein said nucleic acid construct comprises a nucleic acid fragment of SEQ ID NO:13 that is at least 100 nucleotides in length.

42. The plant of claim 41, wherein said regulatory element is an epidermal cell-specific promoter.

43. The plant of claim 41, wherein said nucleic acid fragment is operably linked in antisense orientation to said regulatory element.

44. The plant of claim 16, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:2.

45. The plant of claim 16, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:4.

46. The plant of claim 16, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:6.

47. The plant of claim 16, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:8.

48. The plant of claim 16, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:10.

49. The plant of claim 16, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:12.

50. The plant of claim 16, wherein said regulatory element is operably linked

in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:14.

51. The plant of claim 17, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:2.

52. The plant of claim 17, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:4.

53. The plant of claim 17, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:6.

54. The plant of claim 17, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:8.

55. The plant of claim 17, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:10.

56. The plant of claim 17, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:12.

57. The plant of claim 17, wherein said regulatory element is operably linked in sense orientation to a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:14.

58. The plant of claim 18, wherein said polynucleotide encodes a polypeptide having the amino acid sequence of SEQ ID NO:2.

59. The plant of claim 18, wherein said polynucleotide encodes a polypeptide having the amino acid sequence of SEQ ID NO:4.

60. The plant of claim 18, wherein said polynucleotide encodes a polypeptide having the amino acid sequence of SEQ ID NO:6.

61. The plant of claim 18, wherein said polynucleotide encodes a polypeptide having the amino acid sequence of SEQ ID NO:8.

62. The plant of claim 18, wherein said polynucleotide encodes a polypeptide having the amino acid sequence of SEQ ID NO:10.

63. The plant of claim 18, wherein said polynucleotide encodes a polypeptide having the amino acid sequence of SEQ ID NO:12.

64. The plant of claim 18, wherein said polynucleotide encodes a polypeptide having the amino acid sequence of SEQ ID NO:14.

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Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 20020116735 A1

L3: Entry 1 of 4 File: PGPB Aug 22, 2002

PGPUB-DOCUMENT-NUMBER: 20020116735
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020116735 A1

TITLE: Nucleic acids encoding a plant enzyme involved in very long chain fatty acid synthesis

PUBLICATION-DATE: August 22, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kunst, Ljerka	North Vancouver		CA	
Millar, Anthony A.	Vancouver		CA	

US-CL-CURRENT: 800/281; 435/193, 435/320.1, 435/410, 530/370, 536/23.2, 536/23.6, 800/286, 800/287

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. Desc | Image

☐ 2. Document ID: US 20020038471 A1

L3: Entry 2 of 4 File: PGPB Mar 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020038471
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020038471 A1

TITLE: Use of VLCFAE for identifying herbicidally active compounds

PUBLICATION-DATE: March 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lechelt-Kunze, Christa	Koln		DE	
Meissner, Ruth	Leverkusen		DE	
Tietjen, Klaus	Langenfeld		DE	

US-CL-CURRENT: 800/300; 530/370, 536/23.6, 536/24.1, 800/278

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. Desc | Image

☐ 3. Document ID: US 6274790 B1

L3: Entry 3 of 4 File: USPT Aug 14, 2001

US-PAT-NO: 6274790
DOCUMENT-IDENTIFIER: US 6274790 B1

TITLE: Nucleic acids encoding a plant enzyme involved in very long chain fatty acid synthesis

DATE-ISSUED: August 14, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kunst; Ljerka	North Vancouver			CA
Millar; Anthony A.	Vancouver			CA

US-CL-CURRENT: 800/287; 435/468, 536/24.1, 800/281, 800/298

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. Desc | Image

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☐ 4. Document ID: JP 2002360248 A EP 1174517 A2 DE 10034804 A1 US 20020038471 A1

L3: Entry 4 of 4 File: DWPI Dec 17, 2002

DERWENT-ACC-NO: 2002-156695
DERWENT-WEEK: 200312

TITLE: Use of a polypeptide with very long chain fatty acid elongase activity for identifying herbicides, and of its nucleic acid for identifying specific modulators

INVENTOR: LECHELT-KUNZE, C; MEISSNER, R ; TIETJEN, K

PRIORITY-DATA: 2000DE-1034804 (July 18, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2002360248 A	December 17, 2002		020	C12N015/09
EP 1174517 A2	January 23, 2002	G	022	C12Q001/527
DE 10034804 A1	January 31, 2002		000	C12Q001/48
US 20020038471 A1	March 28, 2002		000	C12N015/29

INT-CL (IPC): A01 H 5/00; A01 N 61/00; A01 N 63/00; C07 H 21/00; C12 N 5/04; C12 N 15/09; C12 N 15/29; C12 N 15/54; C12 N 15/82; C12 P 21/00; C12 Q 1/02; C12 Q 1/48; C12 Q 1/527; G01 N 33/15; G01 N 33/50; C12 Q 1/02; C12 Q 1/02; C12 Q 1/02; C12 Q 1/48; C12 Q 1/48; C12 Q 1/48; C12 R 1:19; C12 R 1:19; C12 R 1:645; C12 R 1:645; C12 R 1:91; C12 R 1:91

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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Terms	Documents
long chain fatty acid elongase and (inhibitor or inhibit or inhibition or activator)	4

Display Format: - Change Format

Previous Page Next Page

WEST Search History

DATE: Tuesday, May 13, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L5	long chain fatty acid elongase.clm.	3	L5
L4	L3 and dna	4	L4
L3	long chain fatty acid elongase and (inhibitor or inhibit or inhibition or activator)	4	L3
DB=USPT; PLUR=YES; OP=ADJ			
L2	L1	1	L2
L1	6307128	1	L1

END OF SEARCH HISTORY

WEST Search History

DATE: Tuesday, May 13, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L10	L7 and fatty acid and dna	30	L10
L9	elongase and long chain fatty acid inhibitor?.clm.	0	L9
L8	L7 and fatty acid	30	L8
L7	elongase and inhibitor?.clm.	59	L7
L6	long chain fatty acid elongase and inhibitor?	2	L6
L5	long chain fatty acid elongase.clm.	3	L5
L4	L3 and dna	4	L4
L3	long chain fatty acid elongase and (inhibitor or inhibit or inhibition or activator)	4	L3
DB=USPT; PLUR=YES; OP=ADJ			
L2	L1	1	L2
L1	6307128	1	L1

END OF SEARCH HISTORY

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FULL ESTIMATED COST                                     5.92       6.34

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                                                       ENTRY    SESSION
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DICTIONARY FILE UPDATES:  12 MAY 2003  HIGHEST RN 514787-04-3

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

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Experimental and calculated property data are now available.  See HELP
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in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> file medline caplus biosis biotechds scisearch  embase
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.40      14.38

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=> s VLCFAE for identifying herbicidally active compounds
L2            0 VLCFAE FOR IDENTIFYING HERBICIDALLY ACTIVE COMPOUNDS

=> s (VLCFAE very long chain fatty acid elongase) and (herbicidal compounds or herbicide?
L3            0 (VLCFAE VERY LONG CHAIN FATTY ACID ELONGASE) AND (HERBICIDAL
                COMPOUNDS OR HERBICIDE? OR INHIBITOR)

=> s (VLCFAE or very long chain fatty acid elongase) and (herbicidal compounds or herbicid
L4            2 (VLCFAE OR VERY LONG CHAIN FATTY ACID ELONGASE) AND (HERBICIDAL
                COMPOUNDS OR HERBICIDE? OR INHIBITOR)

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5            1 DUP REM L4 (1 DUPLICATE REMOVED)

=> d 15

L5   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2003 ACS         DUPLICATE 1
AN   2002:69452  CAPLUS
DN   136:114240
TI   The gene for the very long chain
     fatty acid elongase of Arabidopsis thaliana
     and the identification of herbicides acting on it
IN   Lechelt-Kunze, Christa; Meissner, Ruth; Tietjen, Klaus
PA   Bayer A.-G., Germany
SO   Eur. Pat. Appl., 22 pp.
     CODEN: EPXXDW
DT   Patent
LA   German
FAN.CNT 1
     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ---------------   ----  --------      ---------------  --------
PI   EP 1174517         A2   20020123      EP 2001-115693   20010705
     EP 1174517         A3   20021009
          R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
              IE, SI, LT, LV, FI, RO
     DE 10034804        A1   20020131      DE 2000-10034804 20000718
     US 2002038471      A1   20020328      US 2001-905657   20010713
     JP 2002360248      A2   20021217      JP 2001-216441   20010717
PRAI DE 2000-10034804   A    20000718


=> s fatty acid elongase and  (herbicide? or inhibitor)
L6           18 FATTY ACID ELONGASE AND (HERBICIDE? OR INHIBITOR)

=> dup rem l6
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PROCESSING COMPLETED FOR L6
L7 15 DUP REM L6 (3 DUPLICATES REMOVED)

=> d l7 1-15 ibib ab

L7 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 1
ACCESSION NUMBER: 2002:69452 CAPLUS
DOCUMENT NUMBER: 136:114240
TITLE: The gene for the very long chain **fatty acid elongase** of Arabidopsis thaliana and the identification of **herbicides** acting on it
INVENTOR(S): Lechelt-Kunze, Christa; Meissner, Ruth; Tietjen, Klaus
PATENT ASSIGNEE(S): Bayer A.-G., Germany
SOURCE: Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1174517	A2	20020123	EP 2001-115693	20010705
EP 1174517	A3	20021009		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 10034804	A1	20020131	DE 2000-10034804	20000718
US 2002038471	A1	20020328	US 2001-905657	20010713
JP 2002360248	A2	20021217	JP 2001-216441	20010717

PRIORITY APPLN. INFO.: DE 2000-10034804 A 20000718
AB The FIDDLEHEAD gene for the very long chain **fatty acid elongase** of Arabidopsis thaliana is cloned and characterized for use in screening for **herbicides** affecting the enzyme. The enzyme is the primary target of chloroacetamide **herbicides**.

L7 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:332352 CAPLUS
DOCUMENT NUMBER: 136:364897
TITLE: Expression cassettes using the myb11 promoter of Arabidopsis for tissue-specific expression of foreign genes in the embryonic epidermis and flower of plants
INVENTOR(S): Reindl, Andreas; Bischoff, Friedrich; Tonelli, Chiara; Petroni, Katia
PATENT ASSIGNEE(S): Basf Plant Science Gmbh, Germany
SOURCE: PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002034924	A2	20020502	WO 2001-EP12444	20011026
WO 2002034924	A3	20021107		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,				

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10053519	A1	20020502	DE 2000-10053519	20001027
AU 2002024803	A5	20020506	AU 2002-24803	20011026

PRIORITY APPLN. INFO.: DE 2000-10053519 A 20001027
WO 2001-EP12444 W 20011026

AB The invention relates to an expression cassette for expression of foreign genes in the embryonic epidermis and/or the flower of plants. The cassette uses the promoter of the mybl1 gene of Arabidopsis thaliana or functional equiv. or equiv. fragments thereof that have substantially the same promoter activity, said promoter being operably linked with a nucleic acid sequence that is to be transgenically expressed. The invention further relates to vectors derived from said expression cassettes. The invention also relates to transgenic plants transformed with said expression cassettes or vectors, to cultures, parts or transgenic propagation material derived therefrom and to the use thereof for producing foodstuff, feedstuff, seeds, pharmaceuticals or fine chems.

L7 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:941583 CAPLUS
DOCUMENT NUMBER: 138:34130
TITLE: Expression cassettes using the LOX5 promoter of Arabidopsis for tissue-specific expression of foreign genes in the cotyledons and embryonic tissue of plants
INVENTOR(S): Bischoff, Friedrich; Feussner, Ivo; Loyall, Linda Patricia
PATENT ASSIGNEE(S): BASF Plant Science G.m.b.H., Germany
SOURCE: Ger. Offen., 28 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10127882	A1	20021212	DE 2001-10127882	20010611

PRIORITY APPLN. INFO.: DE 2001-10127882 20010611

AB The invention relates to an expression cassette for expression of foreign genes in the cotyledons or other embryonic tissues of plants. The cassette uses the promoter of the LOX5 gene of Arabidopsis thaliana or functional equiv. or equiv. fragments thereof that have substantially the same promoter activity, said promoter being operably linked with a nucleic acid sequence that is to be transgenically expressed. The invention further relates to vectors derived from said expression cassettes. The invention also relates to transgenic plants transformed with said expression cassettes or vectors, to cultures, parts or transgenic propagation material derived therefrom and to the use thereof for producing foodstuff, feedstuff, seeds, pharmaceuticals or fine chems.

L7 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:842955 CAPLUS
DOCUMENT NUMBER: 138:102323
TITLE: Chloroacetamides affect the plasma membrane
AUTHOR(S): Matthes, Bernd; Boger, Peter
CORPORATE SOURCE: Universitat Konstanz, Konstanz, D-78457, Germany
SOURCE: Zeitschrift fuer Naturforschung, C: Journal of Biosciences (2002), 57(9/10), 843-852
CODEN: ZNCBDA; ISSN: 0939-5075
PUBLISHER: Verlag der Zeitschrift fuer Naturforschung
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In the present study membrane fatty acids were analyzed to find a link

between the biosynthesis inhibition of very-long-chain fatty acids and the phytotoxic effects of herbicidal chloroacetamides. Accordingly, we have isolated membranes of cucumber seedlings (Cucumis sativus) by two-phase partitioning and analyzed their fatty acid content. Satd. VLCFAs ranging from C20 to C26 were found in high amts. (22%) in the plasma membrane fraction. Non-modified VLCFAs were predominantly present in phospholipids, while satd. 2-hydroxylated VLCFAs were identified in cerebrosides. Treatment of intact seedlings with chloroacetamides markedly reduced the VLCFA content in the plasma membrane. This result could be specified by fatty-acid labeling using [14C]malonate as a substrate for fatty acid elongation. De novo incorporation of VLCFAs into the plasma membrane and into microsomal membranes, resp., was severely impaired by chloroacetamides with I50 values between 10 to 100 nM. These results confirm the previous finding that chloroacetamides inhibit VLCFA biosynthesis localized in the microsomes. The direct consequence of this inhibition is a strong decrease of VLCFAs required as constituents of the plasma membrane and the substitution by shorter acyl chains. Apparently, phys. properties and function of the plasma membrane are affected eventually leading to death of the plant.

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:713624 CAPLUS

DOCUMENT NUMBER: 138:149406

TITLE: Cloning and functional characterisation of an enzyme involved in the elongation of .DELTA.6-polyunsaturated fatty acids from the moss Physcomitrella patens

AUTHOR(S): Zank, Thorsten K.; Zaehringer, Ulrich; Beckmann, Christoph; Pohnert, Georg; Boland, Wilhelm; Holtorf, Hauke; Reski, Ralf; Lerchl, Jens; Heinz, Ernst

CORPORATE SOURCE: Institut fuer Allgemeine Botanik, Universitaet Hamburg, Hamburg, 22609, Germany

SOURCE: Plant Journal (2002), 31(3), 255-268
CODEN: PLJUED; ISSN: 0960-7412

PUBLISHER: Blackwell Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The moss Physcomitrella patens contains high proportions of polyunsatd. very-long-chain fatty acids with up to 20 carbon atoms. Starting from preformed C18 polyunsatd. fatty acids, their biosynthesis involves a sequence of .DELTA.6-desatn., .DELTA.6-elongation and .DELTA.5-desatn. In this report we describe for the first time the characterization of a cDNA (PSE1) of plant origin with homol. to the ELO-genes from Saccharomyces cerevisiae, encoding a component of the .DELTA.6-elongase. Functional expression of PSE1 in S. cerevisiae led to the elongation of exogenously supplied .DELTA.6-polyunsatd. fatty acids. By feeding expts. with different trienoic fatty acids of natural and synthetic origin, both substrate specificity and substrate selectivity of the enzyme were investigated. The activity of Psel, when expressed in yeast, was not sensitive to the antibiotic cerulenin, which is an effective **inhibitor** of fatty acid synthesis and elongation. Furthermore, the PSE1 gene was disrupted in the moss by homologous recombination. This led to a complete loss of all C20 polyunsatd. fatty acids providing addnl. evidence for the function of the cDNA as coding for a component of the .DELTA.6-elongase. The elimination of the elongase was not accompanied by a visible alteration in the phenotype, indicating that C20-PUFAs are not essential for viability of the moss under phytotron conditions.

REFERENCE COUNT: 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:912797 CAPLUS

DOCUMENT NUMBER: 138:200264
TITLE: Inhibitors of biosynthesis of very-long-chain fatty acids
AUTHOR(S): Boeger, Peter; Matthes, Bernd
CORPORATE SOURCE: Faculty of Biology, University of Konstanz, Konstanz, 78457, Germany
SOURCE: Herbicide Classes in Development (2002), 115-137. Editor(s): Boeger, Peter; Wakabayashi, Ko; Hirai, Kenji. Springer-Verlag: Berlin, Germany. CODEN: 69DHXS; ISBN: 3-540-43147-0
DOCUMENT TYPE: Conference; General Review
LANGUAGE: English
AB A review discusses the mechanism of action of chloracetamide **herbicides** and focuses on very long-chain fatty acid synthesis inhibition. The action of the **herbicides** on fatty-acid synthase, cell-free elongase system, and mechanism of resistance to chloracetamides are discussed.
REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:888437 CAPLUS
DOCUMENT NUMBER: 136:181600
TITLE: A molecular profile of the mouse gastric parietal cell with and without exposure to Helicobacter pylori
AUTHOR(S): Mills, Jason C.; Syder, Andrew J.; Hong, Chieu V.; Guruge, Janaki L.; Raaii, Farhang; Gordon, Jeffrey I.
CORPORATE SOURCE: Departments of Molecular Biology and Pharmacology, and Pathology and Immunology, Washington University School of Medicine, St. Louis, MO, 63110, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2001), 98(24), 13687-13692 CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The parietal cell (PC) plays an important role in normal gastric physiol. and in common diseases of the stomach. Although the genes involved in acid secretion are well known, there is limited mol. information about other aspects of PC function. We have generated a comprehensive database of genes expressed preferentially in PCs relative to other gastric mucosal cell lineages. PCs were purified from FVB/N mouse stomachs by lectin panning. CRNA generated from PC-enriched (PC+) and PC-depleted (PC-) populations were used to query oligonucleotide-based microarrays. False-pos. signals were filtered by using a new algorithm for noise redn. and selected results independently audited by real-time quant. reverse transcription (RT)-PCR. The annotated database of 240 genes reveals previously unappreciated aspects of cellular function, including factors that may mediate PC regulation of gastric stem cell proliferation. PC+ and PC- expression profiles were also prepd. from germ-free mice 2 and 8 wk after colonization with a clin. isolate of Helicobacter pylori (Hp)-the pathogen that produces acid peptic disease (gastritis, ulcers) in humans. Whereas PC+ gene expression was remarkably const., the PC- fractions demonstrated a robust, evolving host response, with increased expression of genes involved in cell motility/migration, extracellular matrix interactions, and IFN responses. The consistency of PC+ gene expression allowed identification of a cohort of 92 genes enriched in PCs under all conditions studied. These genes provide a mol. profile that can be used to define this epithelial lineage under a variety of physiol., pharmacol., and pathol. stimuli. A complete list of the genes in which .gtoreq.2-fold changes were found can be accessed at http://gordonlab.wustl.edu/mills/parietalcells.
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:15506 CAPLUS
DOCUMENT NUMBER: 136:258667
TITLE: Inhibition of very-long-chain fatty acid biosynthesis by 2-chloro-N-(3-methoxy-2-thenyl)-2',6'-dimethylacetanilide, thenylchlor, and its analogs
AUTHOR(S): Takahashi, Hideomi; Ohki, Aiko; Kato, Shozo; Tanaka, Akira; Sato, Yukiharu; Matthes, Bernd; Boeger, Peter; Wakabayashi, Ko
CORPORATE SOURCE: Graduate School of Agricultural Science, Tamagawa University, Machida-shi, Tokyo, 194-8610, Japan
SOURCE: Pesticide Biochemistry and Physiology (2001), 71(3), 140-146
CODEN: PCBPBS; ISSN: 0048-3575
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The **herbicide** thenylchlor and its analogs inhibited the incorporation of [1-14C]oleate and [2-14C]malonate into very-long-chain fatty acids (VLCFAs) in Scenedesmus cells and leek microsomes from Allium porrum, resp. Although the precise mode of interaction of thenylchlor at the mol. level is not completely clarified by the present study, it is concluded that thenylchlor acts as an **inhibitor** of the elongase enzyme involved in biosynthesis of fatty acids with alkyl chains longer than C18. For a strong inhibition of VLCFA formation, an N,N-disubstituted amide moiety of chloroacetamides is required. Furthermore, 2,6-di-Me substituents at the benzene ring and electron-donating groups such as methoxyl or Me at the 3 position of the thiophene ring produce a strong inhibition of VLCFA formation. A correlation was found between the phytotoxic effect against barnyardgrass (Echinochloa oryzicola) and the decreased VLCFA formation. (c) 2001 Academic Press.
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 15 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 2000-06755 BIOTECHDS
TITLE: Zea mays **fatty acid elongase** coding sequences, useful for transforming plants; improving or creating insect, fungus, pest, drought or **herbicide** resistance
AUTHOR: Wienand U; da Costa E Silva O; Janke S
PATENT ASSIGNEE: Agr.Technol.Genet.
LOCATION: Rastatt, Germany.
PATENT INFO: WO 2000008172 17 Feb 2000
APPLICATION INFO: WO 1999-EP5543 31 Jul 1999
PRIORITY INFO: EP 1998-114587 3 Aug 1998
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2000-205719 [18]
AB A nucleic acid molecule (I) for cloning a **fatty-acid-elongase** protein, is claimed. Also claimed are: a vector comprising (I); a host cell transformed with a vector; a cell culture (plant, yeast or bacterial); a protein with the activity of a **fatty-acid-elongase** produced by the cell from maize (Zea mays); an antibody reactive with the protein; a plant comprising a genetically modified cell; seeds and plant tissue comprising a genetically modified cell from a plant (Zea mays); and a method of genetically modifying a cell by transforming the cell with the vector. The **fatty-acid-elongase** sequences can be used to transform plants to modify (increase or decrease) the content of

very long chain fatty acid molecules and/ or waxes in the plant. Transgenic plants containing the elongase sequences can be used in the production of very long chain fatty acid molecules and/ or waxes. The new plants and plant seeds have altered oil content. The cDNA sequences are also useful in that they allow for the production of male sterile plants and plants such as ornamental plants, exhibiting a modified leaf structure improving or creating insect, fungus, pest, drought or **herbicide** resistance. (61pp)

L7 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:691216 CAPLUS
DOCUMENT NUMBER: 131:320378
TITLE: **Fatty acid elongase** gene expression in guard cells regulates stomatal number
INVENTOR(S): Van Der Lee, Frederique Marianne; Sijmons, Peter Christiaan; Hetherington, Alistair Maculloch; Holroyd, Geoffrey Heys; Gray, Julie Elizabeth
PATENT ASSIGNEE(S): Zeneca Limited, UK
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9954471	A1	19991028	WO 1999-GB1191	19990419
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2324442	AA	19991028	CA 1999-2324442	19990419
AU 9936151	A1	19991108	AU 1999-36151	19990419
BR 9909765	A	20001219	BR 1999-9765	19990419
EP 1080196	A1	20010307	EP 1999-918107	19990419
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002512035	T2	20020423	JP 2000-544803	19990419

PRIORITY APPLN. INFO.: GB 1998-8304 A 19980420
WO 1999-GB1191 W 19990419

AB A method of producing plants with an increased no. of stomata relative to control plants using **fatty acid elongase** gene under control of a guard cell-specific and carbon dioxide-responsive promoter is described. The effect may be related to an interaction between fatty acids and 14-3-3 proteins (no data). The **fatty acid elongase** gene of Arabidopsis thaliana C24 was disrupted by transformation with plasmid carrying a promoterless GUS reporter gene and screening for guard cell-specific expression and its guard-cell expression specific and carbon-dioxide responsive promoter element was identified by inverse PCR. Transgenic plants showed an increased no. of stomata relative to control plants in response to elevated carbon dioxide. The inhibition may be achieved by sense co-suppression or anti-sense inhibition of an endogenous gene.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:418296 CAPLUS
DOCUMENT NUMBER: 129:132485
TITLE: Effects of pebulate and pebulate sulfoxide on very long chain fatty acid biosynthesis
AUTHOR(S): Barrett, Philippa B.; Harwood, John L.
CORPORATE SOURCE: School of Molecular and Medical Biosciences, University of Wales Cardiff, Cardiff, CF1 3US, UK
SOURCE: Phytochemistry (1998), 48(3), 441-446
CODEN: PYTCAS; ISSN: 0031-9422
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The effects of the thiocarbamate **herbicide**, pebulate (S-propylbutylethylthiocarbamate) and its sulfoxide were investigated in vivo. The sulfoxide caused greater inhibition of very long chain fatty acid (VLCFA) synthesis from [1-14C]acetate than pebulate, suggesting that the former was the physiol.-active form of the **herbicide**. In contrast, to fatty acid elongation, de novo synthesis was insensitive to pebulate or its sulfoxide in vivo. The greater sensitivity of elongation to the sulfoxide was confirmed by in vitro assays which measured stearoyl-CoA or arachidoyl-CoA elongation with [2-14C]malonyl-CoA. The results confirm suggestions that thiocarbamates are oxidized to their sulfoxide derivs. for full herbicidal activity and it is the latter which inhibit VLCFA and, hence, surface wax synthesis.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:119489 CAPLUS
DOCUMENT NUMBER: 124:170673
TITLE: Changing the dimensions of suberin lamellae of green cotton fibers with a specific **inhibitor** of the endoplasmic reticulum-associated fatty acid elongases
AUTHOR(S): Schmutz, Alain; Buchala, Antony J.; Ryser, Ulrich
CORPORATE SOURCE: Institut Botanische Biologie, Universitaet Freiburg, Freiburg, CH-1700, Switz.
SOURCE: Plant Physiology (1996), 110(2), 403-11
CODEN: PLPHAY; ISSN: 0032-0889
PUBLISHER: American Society of Plant Physiologists
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The fibers of the green lint mutant of cotton (Gossypium hirsutum L.) contain large amts. of wax and are suberized. More than 96% of the bifunctional aliph. suberin monomers (.alpha.,.omega.-alkanedioic acids and .omega.-hydroxyalkanoic acids) have chain lengths of C22 and C24 in green cotton fiber suberin. In fibers grown in the presence of S-ethyl-N,N-dipropylthiocarbamate (EPTC), a specific **inhibitor** of the endoplasmic reticulum-assocd. fatty acid elongases, the aliph. suberin monomers were shortened to chain lengths of C16 and C18. Whereas the amts. of most suberin monomers were not neg. affected by the **inhibitor** treatment, the amts. of .alpha.,.omega.-alkanedioic acids and of glycerol were reduced by more than 80%. Anal. in the transmission electron microscope showed a redn. in suberin content after EPTC treatment. The suberin layers were discontinuous and consisted of fewer lamellae than in the controls. A small proportion (up to 22%) of the electron-translucent suberin lamellae were thinner after EPTC treatment, probably because of the shortening of the aliph. suberin monomers. A larger proportion of the electron-translucent lamellae were thicker than the lamellae in the controls. Possible explanations for this observation are obsd.

L7 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1994:573005 CAPLUS
DOCUMENT NUMBER: 121:173005
TITLE: Plant fatty acid elongation: sensitivity to thiocarbamate **herbicides** and their sulfoxides
AUTHOR(S): Barrett, Philippa B.; Howells, Tanya; Klopfenstein, William E.; Harwood, John L.
CORPORATE SOURCE: Dep. Biochem., UWCC, Cardiff, CF1 1ST, UK
SOURCE: Biochemical Society Transactions (1994), 22(3), 260S
CODEN: BCSTB5; ISSN: 0300-5127
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The effect of Tillam and its sulfoxide on fatty acid formation in barley and wheat leaves as well as pea seeds and their effects on **fatty acid elongase** activity were investigated. Marked inhibition of very long-chain fatty acid (VLCFA) formation occurred in vivo. Some effect on de novo fatty acid formation was obsd.; however, this was very variable, esp. at higher concns. of **herbicide**. Tillam sulfoxide was a more potent **inhibitor** than the parent compd. Tillam; this was also evident in vitro. Results suggest that thiocarbamate **herbicides** inhibit VLCFA formation in sensitive plants and thus interfere with the normal prodn. of surface lipids.

L7 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 2
ACCESSION NUMBER: 1993:663266 CAPLUS
DOCUMENT NUMBER: 119:263266
TITLE: Phospholipid sources of metabolically elongated gammalinolenic acid: conversion to prostaglandin E1 in stimulated mouse macrophages
AUTHOR(S): Fan, Yang Yi; Chapkin, Robert S.
CORPORATE SOURCE: Dep. Anim. Sci., Texas A and M Univ., College Station, TX, 77843-2471, USA
SOURCE: Journal of Nutritional Biochemistry (1993), 4(10), 602-7
CODEN: JNBIEL; ISSN: 0955-2863
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors have previously demonstrated that macrophages possess an active long chain polyunsatd. **fatty acid elongase** capable of converting (>85%) gammalinolenic acid (18:3n-6, GLA) to dihomogammalinolenic acid (20:3n-6, DGLA), which, following cell stimulation, is converted to PGE1. This is noteworthy because PGE1 is an eicosanoid with antiaggregatory and antiinflammatory properties. In the present study, mouse peritoneal macrophages were incubated with [14C]GLA and [3H]-glycerol for 20 h and subsequently stimulated with calcium ionophore A23187 (phospholipase A2 activator), phorbol ester (PMA, protein kinase C activator), PMA + A23187, merthiolate (lysophosphatide acyltransferase **inhibitor**) + A23187, or nothing. Following stimulation, PMA + A23187- and merthiolate + A23187-treated cells had increased levels of [14C]-PGE1 and [14C]-PGE2 biosynthesis compared with A23187, PMA, and nonstimulated treatments. [14C]-fatty acid (primarily DGLA) was primarily incorporated into phosphatidylcholine (PC) (64.8%, in nonstimulated cells). A23187, PMA, PMA + A23187, and merthiolate + A23187 treatments had decreased levels of [14C]-PC and increased levels of [3H]-lyso-PC relative to nonstimulated cells. Therefore, in vitro activation of phospholipase A2 and inhibition of [14C]DGLA (derived from [14C]GLA) reacylation can enhance [14C]-PGE1 biosynthesis. These data indicate the regulatory importance of [14C]DGLA reacylation relative to phospholipase A2 activity in mouse peritoneal macrophage PGE1 biosynthesis.

L7 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:230156 CAPLUS

DOCUMENT NUMBER: 116:230156
TITLE: Inhibition of fatty acid elongation provides a basis for the action of the **herbicide**, ethofumesate, on surface wax formation
AUTHOR(S): Abulnaja, Khalid O.; Tighe, Caroline R.; Harwood, John L.
CORPORATE SOURCE: Dep. Biochem., Univ. Wales, Cardiff, CF1 1ST, UK
SOURCE: Phytochemistry (1992), 31(4), 1155-9
CODEN: PYTCAS; ISSN: 0031-9422
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The effects of ethofumesate on fatty acid synthesis in germinating pea seeds and developing barley leaves were studied. Ethofumesate inhibited labeling of fatty acids from 14C-acetate, this inhibition being much greater for very long chain fatty acids than for those of shorter chain length made de novo. Measurement of elongation reactions, using pea seed microsomal fractions and [2-14C]malonyl-CoA, confirmed that ethofumesate had a preferential action on **fatty acid elongase**. The data provide a possible explanation for the action of ethofumesate on epicuticular wax formation.

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(FILE 'HOME' ENTERED AT 14:19:42 ON 13 MAY 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHDS, SCISEARCH, EMBASE' ENTERED AT 14:20:40 ON 13 MAY 2003

FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHDS, SCISEARCH, EMBASE' ENTERED AT 14:20:49 ON 13 MAY 2003
L1 6208630 S REGISTRY

FILE 'REGISTRY' ENTERED AT 14:21:27 ON 13 MAY 2003

FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHDS, SCISEARCH, EMBASE' ENTERED AT 14:21:33 ON 13 MAY 2003
L2 0 S VLCFAE FOR IDENTIFYING HERBICIDALLY ACTIVE COMPOUNDS
L3 0 S (VLCFAE VERY LONG CHAIN FATTY ACID ELONGASE) AND (HERBICIDAL
L4 2 S (VLCFAE OR VERY LONG CHAIN FATTY ACID ELONGASE) AND (HERBICID
L5 1 DUP REM L4 (1 DUPLICATE REMOVED)
L6 18 S FATTY ACID ELONGASE AND (HERBICIDE? OR INHIBITOR)
L7 15 DUP REM L6 (3 DUPLICATES REMOVED)

=> s l7 and arabidopsis
L8 4 L7 AND ARABIDOPSIS

=> d l8 1-4 ibib ab

L8 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:941583 CAPLUS
DOCUMENT NUMBER: 138:34130
TITLE: Expression cassettes using the LOX5 promoter of **Arabidopsis** for tissue-specific expression of foreign genes in the cotyledons and embryonic tissue of plants
INVENTOR(S): Bischoff, Friedrich; Feussner, Ivo; Loyall, Linda Patricia
PATENT ASSIGNEE(S): BASF Plant Science G.m.b.H., Germany
SOURCE: Ger. Offen., 28 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10127882	A1	20021212	DE 2001-10127882	20010611

PRIORITY APPLN. INFO.: DE 2001-10127882 20010611

AB The invention relates to an expression cassette for expression of foreign genes in the cotyledons or other embryonic tissues of plants. The cassette uses the promoter of the LOX5 gene of **Arabidopsis** thaliana or functional equiv. or equiv. fragments thereof that have substantially the same promoter activity, said promoter being operably linked with a nucleic acid sequence that is to be transgenically expressed. The invention further relates to vectors derived from said expression cassettes. The invention also relates to transgenic plants transformed with said expression cassettes or vectors, to cultures, parts or transgenic propagation material derived therefrom and to the use thereof for producing foodstuff, feedstuff, seeds, pharmaceuticals or fine chems.

L8 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:332352 CAPLUS
DOCUMENT NUMBER: 136:364897
TITLE: Expression cassettes using the myb11 promoter of **Arabidopsis** for tissue-specific expression of foreign genes in the embryonic epidermis and flower of plants
INVENTOR(S): Reindl, Andreas; Bischoff, Friedrich; Tonelli, Chiara; Petroni, Katia
PATENT ASSIGNEE(S): Basf Plant Science Gmbh, Germany
SOURCE: PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002034924	A2	20020502	WO 2001-EP12444	20011026
WO 2002034924	A3	20021107		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10053519	A1	20020502	DE 2000-10053519	20001027
AU 2002024803	A5	20020506	AU 2002-24803	20011026

PRIORITY APPLN. INFO.: DE 2000-10053519 A 20001027
WO 2001-EP12444 W 20011026

AB The invention relates to an expression cassette for expression of foreign genes in the embryonic epidermis and/or the flower of plants. The cassette uses the promoter of the myb11 gene of **Arabidopsis** thaliana or functional equiv. or equiv. fragments thereof that have substantially the same promoter activity, said promoter being operably linked with a nucleic acid sequence that is to be transgenically expressed. The invention further relates to vectors derived from said expression cassettes. The invention also relates to transgenic plants transformed with said expression cassettes or vectors, to cultures, parts

or transgenic propagation material derived therefrom and to the use thereof for producing foodstuff, feedstuff, seeds, pharmaceuticals or fine chems.

L8 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:69452 CAPLUS
DOCUMENT NUMBER: 136:114240
TITLE: The gene for the very long chain **fatty acid elongase** of **Arabidopsis** thaliana and the identification of **herbicides** acting on it
INVENTOR(S): Lechelt-Kunze, Christa; Meissner, Ruth; Tietjen, Klaus
PATENT ASSIGNEE(S): Bayer A.-G., Germany
SOURCE: Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1174517	A2	20020123	EP 2001-115693	20010705
EP 1174517	A3	20021009		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 10034804	A1	20020131	DE 2000-10034804	20000718
US 2002038471	A1	20020328	US 2001-905657	20010713
JP 2002360248	A2	20021217	JP 2001-216441	20010717
PRIORITY APPLN. INFO.:			DE 2000-10034804 A	20000718

AB The FIDDLEHEAD gene for the very long chain **fatty acid elongase** of **Arabidopsis** thaliana is cloned and characterized for use in screening for **herbicides** affecting the enzyme. The enzyme is the primary target of chloroacetamide **herbicides**.

L8 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:691216 CAPLUS
DOCUMENT NUMBER: 131:320378
TITLE: **Fatty acid elongase** gene expression in guard cells regulates stomatal number
INVENTOR(S): Van Der Lee, Frederique Marianne; Sijmons, Peter Christiaan; Hetherington, Alistair Maculloch; Holroyd, Geoffrey Heys; Gray, Julie Elizabeth
PATENT ASSIGNEE(S): Zeneca Limited, UK
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9954471	A1	19991028	WO 1999-GB1191	19990419
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,				

CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2324442	AA	19991028	CA 1999-2324442	19990419
AU 9936151	A1	19991108	AU 1999-36151	19990419
BR 9909765	A	20001219	BR 1999-9765	19990419
EP 1080196	A1	20010307	EP 1999-918107	19990419
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002512035	T2	20020423	JP 2000-544803	19990419

PRIORITY APPLN. INFO.: GB 1998-8304 A 19980420
WO 1999-GB1191 W 19990419

AB A method of producing plants with an increased no. of stomata relative to control plants using **fatty acid elongase** gene under control of a guard cell-specific and carbon dioxide-responsive promoter is described. The effect may be related to an interaction between fatty acids and 14-3-3 proteins (no data). The **fatty acid elongase** gene of **Arabidopsis** thaliana C24 was disrupted by transformation with plasmid carrying a promoterless GUS reporter gene and screening for guard cell-specific expression and its guard-cell expression specific and carbon-dioxide responsive promoter element was identified by inverse PCR. Transgenic plants showed an increased no. of stomata relative to control plants in response to elevated carbon dioxide. The inhibition may be achieved by sense co-suppression or anti-sense inhibition of an endogenous gene.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s elongase inhibition and arabidopsis
L9 1 ELONGASE INHIBITION AND ARABIDOPSIS

=> d l9

L9 ANSWER 1 OF 1 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2000:393523 SCISEARCH
GA The Genuine Article (R) Number: 316CV
TI Towards the primary target of chloroacetamides - new findings pave the way
AU Boger P (Reprint); Matthes B; Schmalfuss J
CS UNIV KONSTANZ, DEPT PLANT PHYSIOL & BIOCHEM, D-78457 CONSTANCE, GERMANY (Reprint)
CYA GERMANY
SO PEST MANAGEMENT SCIENCE, (JUN 2000) Vol. 56, No. 6, pp. 497-508.
Publisher: JOHN WILEY & SONS LTD, BAFFINS LANE CHICHESTER, W SUSSEX PO19 1UD, ENGLAND.
ISSN: 1526-498X.
DT General Review; Journal
FS AGRI
LA English
REC Reference Count: 61
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

=> d l9 ab

L9 ANSWER 1 OF 1 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AB This review reports on research of the last ten years to find the primary target enzyme for chloroacetamides. As could be shown first with the green alga Scenedesmus, the formation of verylong-chain fatty acids (VLCFAs) is severely impaired. Subsequently, in short-term experiments, labelled malonate or stearate could be incorporated into leaf discs of cucumber, barley or leek seedlings. While the formation of 'normal' long-chain fatty acids (up to C18) was nor influenced, phytotoxic chloroacetamides strongly inhibited the synthesis of VLCFAs of C20, 22 and 24, with I-50 values of 10-100nM. Inhibition depends on the amide

structure and on stereospecificity. Also cafenstrole or recently developed tetrazolinones and phosphosulfonates were found active to inhibit fatty-acid elongation. Subsequently, a cell-free elongase assay was developed using a microsomal preparation from leek seedlings (Allium porrum L), [C-14]malonyl-CoA and C18, 20, or G22 acyl-CoA primer substrates. All elongation steps were strongly affected by those phytotoxic herbicides which were also active in vivo. The inhibitors form a tight-binding complex with the condensing elongase enzyme system which develops with time and lowers the I-50 values markedly. Apparently, a nucleophilic attack of the inhibitor takes place at the specific target enzyme. Acyl-CoA elongation inhibition is correlated with growth inhibition of the intact cell. Due to the low I-50 values and the specific inhibition, we assume that impaired VLCFA-formation is the primary phytotoxic impact of chloro-acetamides and functionally related structures. (C) 2000 Society of Chemical Industry.

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(FILE 'HOME' ENTERED AT 14:19:42 ON 13 MAY 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHDS, SCISEARCH, EMBASE' ENTERED AT 14:20:40 ON 13 MAY 2003

FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHDS, SCISEARCH, EMBASE' ENTERED AT 14:20:49 ON 13 MAY 2003

L1 6208630 S REGISTRY

FILE 'REGISTRY' ENTERED AT 14:21:27 ON 13 MAY 2003

FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHDS, SCISEARCH, EMBASE' ENTERED AT 14:21:33 ON 13 MAY 2003

L2 0 S VLCFAE FOR IDENTIFYING HERBICIDALLY ACTIVE COMPOUNDS
L3 0 S (VLCFAE VERY LONG CHAIN FATTY ACID ELONGASE) AND (HERBICIDAL
L4 2 S (VLCFAE OR VERY LONG CHAIN FATTY ACID ELONGASE) AND (HERBICID
L5 1 DUP REM L4 (1 DUPLICATE REMOVED)
L6 18 S FATTY ACID ELONGASE AND (HERBICIDE? OR INHIBITOR)
L7 15 DUP REM L6 (3 DUPLICATES REMOVED)
L8 4 S L7 AND ARABIDOPSIS
L9 1 S ELONGASE INHIBITION AND ARABIDOPSIS

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FULL ESTIMATED COST	132.23	146.61

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-11.72	-11.72

STN INTERNATIONAL LOGOFF AT 14:32:48 ON 13 MAY 2003